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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,823	11/01/2000	Michael A. Davis	712-002-104	4186

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EXAMINER

LYONS, MICHAEL A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/703,823

Applicant(s)

DAVIS ET AL.

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 5) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 6) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kringlebotn et al (6,097,487) in view of Farhadiroushan (5,754,293).**

With regard to claim 1, Kringlebotn discloses a broadband light source 1 and a Bragg grating 5 with a known reference wavelength. The figure only shows grating 5 to be a single grating; however, Kringlebotn discloses both in his abstract and in column 4, lines 49-50 of the specification that the reference Bragg grating 5 is "at least one FBG . . . with a known wavelength providing an accurate wavelength reference". This comment still leaves doubt as to whether each of the multiple Bragg gratings in an etalon structure would actually have the same known wavelength.

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Farhadiroushan teaches (Fig. 11) a device whereby pairs of in-line fiber gratings 20, each grating having the same wavelength, are used to select and reflect a certain group of wavelengths. While these Bragg gratings are not chirped, the practice of chirping a Bragg grating for the purpose of allowing a broader spectrum of wavelengths to pass through is well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the single reference Bragg grating of Kringlebotn a Bragg grating etalon as per Farhadiroushan in addition to chirping the Bragg grating to facilitate the passage of a spectrum of wavelengths through the etalon as per the claimed invention.

With regard to claim 16, the broadband light source and Bragg grating etalon are discussed above. In addition, the Bragg gratings of Farhadiroushan may be contained in optical fiber waveguides, as the specification states “the wavelength filter means may be a wavelength selective grating inside an optical fib[er] waveguide” (Col. 3, lines 10-11).

As for claim 2, the line “at least one fibre Bragg grating” can be read to mean a pair of gratings.

As for claims 3-4, the spacing of the chirped gratings, along with the appropriate results, are well known in the art.

As for claim 5, Kringlebotn discloses an optical filter 8.

As for claim 6, Kringlebotn shows an optical band pass filter 9.

As for claim 7, while a Fabry-Perot filter 8 is disclosed, a Bragg grating can be substituted for the same effect.

As for claim 8, making the Bragg grating long-period is well known.

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As for claim 9, the Fabry-Perot filter disclosed has a "fixed and known free spectral range" (lines 10-11, abstract), making it a selective dielectric filter.

As for claim 10, while the Fabry-Perot filter is disclosed, a Bragg grating can be substituted for the same effect.

As for claim 11, Kringlebotn shows an optical band pass filter 9.

As for claim 12, Kringlebotn discloses an optical filter 8.

As for claims 13 and 14, the device discloses optical couplers 3 and 4.

As for claim 15, while the Fabry-Perot filter is disclosed, a Bragg grating can be substituted for the same effect.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL  
January 30, 2003



**Samuel A. Turner**  
**Primary Examiner**